Solutions for Demanding Applications

VarTech Systems Inc.

Industrial CRT and Flat Panel Displays

Tray Mount

Flush Mount

In Honeywell Bezel

VT181CH4 · VT181CH4-IR

18.1” Flat Panel for Honeywell Applications

User’s Guide

Read these instructions completely before attempting to operate your new Color Display.

Table Of Contents

Section	Page	Section	Page
Section 1		**Section 4**	
Introduction		**Touch screen**	
1.1 VT181CH4 Display Family	1	4.1 Touch Screen Introduction	9
1.2 Product Safety Precautions	2		
		Section 5	
Section 2		**Troubleshooting Tips**	10
Display Setup			
2.1 Display Features	3	**Section 6**	
2.2 Unpacking The Display	4	**Cleaning & Maintenance**	11
2.3 Included Parts	4		
2.4 Connecting Your Display	4	**Section 7**	
2.5 Signal Connections	4-5	**Mechanical Drawings**	
		Mounting Instructions	12
Section 3		Tray Mount Mechanical Drawing	13-14
Getting Started		Flush Mount Mechanical Drawing	15-16
3.1 Adjusting the Display	6		
3.2 Adjustment Procedure	7-8	**Section 8**	
		Display Specifications	17

Section

1

INTRODUCTION

1.1 VT181CH Display Family

The VT181CH4 and VT181CH4-IR are part of a series of LCD replacement displays for the Honeywell TDC Universal Stations (US) Classic Style furniture.

The VT181CH4 displays are offered as chassis tray mount models and as flush mount models. The flush models mount to the Vartech Systems replacement console bezels or the Honeywell replacement console bezel for systems which have been upgraded to the 19" Sony monitor. The chassis tray models mount in the same method as the original CRT displays.

The VT181CH4 and VT181CH4-IR displays are for stations that have GUS, PC Windows based video. These displays replace the 20" Aydin or Intecolor CRT displays. The VT181CH4-IR is supplied complete with a replacement console bezel and new flat IR touch frame which is compatible with the original 20" touch frame being replaced.

1.2 Product Safety Precautions

⇒ Ensure that sufficient space is available around the display to provide the circulation necessary for cooling.

⇒ Ensure that the ambient air temperature will not exceed the specified maximum temperature.

⇒ Do not attempt to service this display yourself. The rear chassis has a seal so that non qualified personal will not expose themselves to dangerous voltages or other risks.

⇒ To protect from electrical shock, unplug the display power supply from the console before moving.

⇒ Do not expose the display to excessive heat.

⇒ Do not use this display near water.

⇒ Unplug the power supply from the console or unit if one of the following conditions exists.
- ⇒ Power cord or plug is damaged or frayed
- ⇒ Liquid is spilled into the display or the display is exposed to rain or water.
- ⇒ The display does not operate normally when the operating instructions are followed.
- ⇒ The display has been dropped or the enclosure has been damaged.
- ⇒ The display exhibits a distinct change in performance, indicating a need for service.

Section

2

DISPLAY SETUP

2.1 VT181CH4 Series Display Features

⇒ Capable of displaying unlimited colors in a continuous spectrum. The high contrast LCD enhances the image with no geometric distortion.

⇒ The Displays come with a HD15 Input Connector.

⇒ The Displays are supplied with a remote membrane switch assembly that mounts to the front of the console bezel for OSD controls.

⇒ The Display is supplied with an Anti-Reflective Screen.

⇒ The Display has an integrated 115/220VAC supply as standard on all models.

2.2 Unpacking and setting up your display

Your LCD monitor package will consist of the basic components listed below. Depending on the display configuration, additional components are supplied.

2.3 What is included with your display

- ⇒ 18.1” LCD Monitor
- ⇒ Accessory Kit: 2-Chassis stops; OSD Membrane Kit; Optional Chassis Brackets; IR touch frame cable
- ⇒ Users Guide (Printed or on CD)

2.4 Connecting the Display

1. Connect all cables to the station first including the optional IR touch screen cable.
2. After connecting the cables between the LCD monitor and the station, plug the power cord into the display.
3. Switch on the display power switch.
4. Reboot the station.
5. Your display should now operate showing the station video information.

Note: The displays are factory OSD adjusted for each configuration. However, additional OSD adjustments may be required (See section 3).

2.5 Signal Connections

To avoid irregular operation and /or damage to the display, please insure correct video is being supplied as shown on the following page.

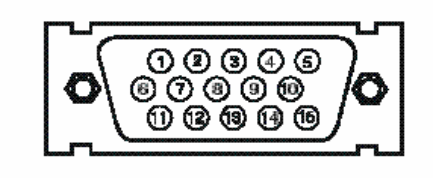
2.5 Signal Connections Cont.

The VT181CH4 /Displays are provided with several video input type of connector as defined below. The video connector that will be used is the HD15. Connect the video cable of the station to the HD15 connector.

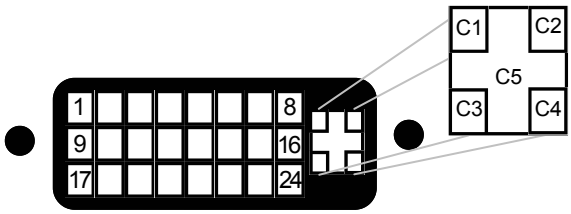
Note: The following figure is the view looking into the pin end of the male connector or solder term end of the female connector.

HD15 Connector
The following table provides the pin numbers and corresponding pin assignments for the HD-15 video connector.

Pin	Signal	Pin	Signal	Pin	Signal
1	Red Video	6	Red Video Ground	11	Not Used
2	Green Video	7	Green Video Ground	12	Bi-Directional Data
3	Blue Video	8	Blue Video Ground	13	Horizontal Sync
4	Not Used	9	No Connection	14	Vertical Sync
5	Return	10	Sync Ground	15	Data Clock (SCL)



HD15 Connector



DVI-I Connector
(Digital / Analog)

DVI-I	
Pin	**Signal**
C1	Analog Red
C2	Analog Green
C3	Analog Blue
C4	Analog H. Sync
C5	Analog Ground

DVI-I					
Pin	**Signal**	**Pin**	**Signal**	**Pin**	**Signal**
1	T.M.D.S. Data2-	9	T.M.D.S. Data1-	17	T.M.D.S. Data0-
2	T.M.D.S. Data2+	10	T.M.D.S. Data1+	18	T.M.D.S. Data0+
3	T.M.D.S. Data2/4 Shield	11	T.M.D.S. Data1/3 Shield	19	T.M.D.S. Data0/5 Shield
4	T.M.D.S. Data4-	12	T.M.D.S. Data3-	20	T.M.D.S. Data5-
5	T.M.D.S. Data4+	13	T.M.D.S. Data3+	21	T.M.D.S. Data5+
6	DDC Clock	14	+5V Power	22	T.M.D.S. Clock Shield
7	DDC Data	15	Ground (return for +5V, H. Sync and V. Sync)	23	T.M.D.S. Clock+
8	Analog Vertical Sync	16	Hot Plug Detect	24	T.M.D.S. Clock-

Composite Video Input Connector: CVBS 1.0V p-p
S-Video: S-VHS
LUMA Signal Input 0.7V p-p
CHROMA Signal Input 0.7V p-p

Section

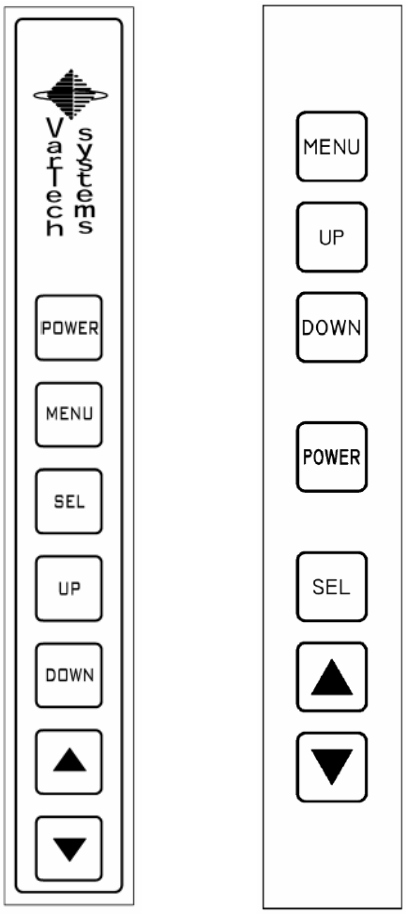
3

GETTING STARTED

3.1 Adjusting the display

The VT181CH4 display has an embedded microprocessor in the converter card. Once you have the unit displaying the resolution you desire for your application do the following:
In order to navigate the appropriate adjustments, press the **MENU** button and the OSD layout chart will appear as indicated as shown below.

If you press the **MENU** button, the new settings are saved and the OSD appear and your setting will be stored in the unit's non volatile memory.



3.2 Definition of OSD (On Screen Display) Adjustments

There are seven membrane buttons (as shown above) located on the unit. They will activate the OSD an allow navigation to all adjustments if your unit requires adjustment.

Press **MENU** an a major adjustment category will appear. Press **DOWN** or **UP** and you will see the remaining adjustment categories. The actual adjustment categories are listed under each major category.

On Screen Display	
Major Category	**Adjustment Category**
ADJUSTMENT	Brightness Contrast Clock Phase H Position V Position Auto
COLOR ADJUSTMENT	User 6500 9300
SETUP	Language Image Size OSD H Position OSD V Position Transparency Zoom

3.3 Adjustment

To adjust the brightness and contrast of the screen		
OSD Agent		**Description**
	Brightness	Adjusts the brightness of video without affecting PC RGB's brightness
	Contrast	Adjusts the contrast of video without affecting PC RGB's contrast
	Clock	Removes the noises. When frequency value is wrong, the image has horizontal lines especially in 1 dot on and off.
	Phase	Removes the noises. When phase value is wrong, the image has vertical lines especially in 1 dot on and off.
	H Position	Adjusts the horizontal position of the image.
	V Position	Adjusts the vertical position of the image.
	Auto Adjust	"Auto adjustment" allows the monitor to self-adjust to the incoming video signal. The values of phase, frequency and position are adjusted automatically.

This function is active if you select an input source other than PC. (DVD, VCR, TV)		
OSD Agent		**Description**
	Brightness	Adjusts the brightness of video or TV without affecting PC RGB's brightness.
	Contrast	Adjusts the contrast of video or TV without affecting PC RGB's contrast.
	Color	Changes the richness of color.
	Tint	Changes the tone of color.
	Sharpness	Adjusts the sharpness of video or TV image.

This function is active if you select a digital DVI input source.		
OSD Agent		**Description**
	Brightness	Adjusts the brightness of video or TV without affecting PC RGB's Brightness.

3.3 Adjustment Cont.

Selects the applied input among DVI digital, Analog RGB, Video and S-VHS

OSD Agent		Description
	DVI Digital	Selects the DVI Digital function.
	Analog RGB	Selects the Analog RGB function.
	Video	Selects the Video function.
	S-VHS	Selects the S-VHS function.

To adjust the tone of color from redish white to bluish white.
The individual color components are also user customizable.

OSD Agent		Description
	6500º K	Redish white
	9300º K	Bluish White
	User	User Customizable

To adjust OSD menu information

OSD Agent		Description
	Language	English, German, French, Italian, Spanish
	Image Size	Changes the image size in several different ways
	OSD H pos	Moves the OSD Window to the horizontal direction.
	OSD V pos	Moves the OSD Window to the vertical direction.
	Transparency	Changes the opaqueness of the background of the OSD
	Zoom	Closes up or down the main display
	Information	Displays current display mode. Displays the driver board operating duration.

Section

4

TOUCH SCREEN

4.1 Touch Screen Introduction

The VT181CH4-IR is supplied with a new flat IR touch frame which is compatible with the original monitor IR touch frame.

Connect the DB9 cable connector to the DB9 connector on the new IR touch frame.
Connect the 10 position (2x5) connector to J1 on the I/O Adapter board.
Connect the 7 position (1x7) connector to J4 of the I/O Adapter board.

It will be necessary to reboot the system for the new touch frame to be activated.

Section

5

TROUBLESHOOTING

Troubleshooting Tips	
Problem	**Troubleshooting Tip**
No image on display screen	1. Check that the power cord of the station has been connected to the display. 2. Check that the power switch of the Display has been turned to the on position. 3. Check that the Video (Signal) Cable from the Display has been securely and correctly connected to the video source.
Abnormal image	1. Check that the correct display model is being used for the station. VT181CH4 for GUS Stations (PC Windows Based) 2. Check that the Video (Signal) Cable from the Display has been securely and correctly connected to the connectors on the video source.
Colors of image on screen are abnormal	1. Check that the Video (Signal) Cable from the display has been securely and correctly connected to the connectors on the video source. 2. Adjust the OSD control for correct color balance.
Disturbances on Screen	1. OSD adjustment is incorrect. Please consult section 3 for OSD screen adjustment procedures.

Section

6

CLEANING AND MAINTANENCE

Cleaning
Occasionally clean the display panel and cabinet with a soft cloth dampened (not soaked) with a mild (non-abrasive) glass cleaner. Keep turning a fresh side of the cloth toward the screen surface to avoid scratching it with accumulated grit.

Note:
The solvent should be applied only to the cloth, and not directly on the monitor screen.

Do not use paper products as they may scratch the surface. To minimize the risk of abrasion, allow the screen to stand dry.
Special care should be taken when cleaning a touch screen or polycarbonate shield that is installed over the screen. Abrasive and certain chemical cleaners can easily damage the surface.
Never use alcoholic or ammoniac cleaners to clean the polycarbonate shield or a touch screen.

Note:
For best results cleaning a monitor with the optional antireflective tempered glass display shield, a solution of denatured alcohol is recommended to thoroughly clean the display.

Other Maintenance
Qualified service personnel should perform all maintenance, except for the power cord replacement described above.

Section

7

MOUNTING INSTRUCTIONS

Mechanical Drawings		
Model	**Description**	**Page(s)**
VT181CH4	Tray Mount	13-14
VT181CH4	Flush Mount	15-16

7.1 Mounting Procedure - Tray Mount

1. Remove the original CRT display monitor. Keep the two "L" shaped brackets.
   These brackets will be used to mount the flat display.
   Included with the display are a set of brackets for both upper and lower tier mounting.
2. Remove the original front console bezel and 20" curved IR touch frame.
3. Install the new replacement console bezel with the original four screws.
   The new console bezel is complete with the new flat IR touch frame.
4. Connect the new touch cable per section 4.1
5. Mount the display to either the lower tier slide tray or the upper tier fixed tray using the supplied brackets. Position the display to the rear of the flat IR touch frame. For lower tier applications, replace the tray stop bolts with the longer supplied stop tubes and bolts and secure.
6. Connect the membrane extension cable to the membrane tab that projects through the console bezel.
7. Connect the video cable per section 2.5
8. Connect the power cord to the display and select the power switch to ON
9. Turn on the station main power switch and boot the system
10. Make any OSD adjustments if required per section 3.1

7.2 Mounting Procedure - Flush Mount

1. Remove the original CRT display monitor.
2. Remove the original front console bezel and 20" curved IR touch frame.
3. Install the new replacement console bezel with the original four screws.
   The new console bezel is complete with the new flat IR touch frame.
4. Connect the new touch cable per section 4.1
5. Mount the display to the rear of the lower tier or upper tier replacement console bezel using the supplied screws.
6. Connect the membrane extension cable to the membrane tab that projects through the console bezel.
7. Connect the video cable per section 2.5
8. Connect the power cord to the display and select the power switch to ON
9. Turn on the station main power switch and boot the system
10. Make any OSD adjustments if required per section 3.1

Note:
For display upgrade only when replacing the flat screen Sony monitor, omit step 2, step 3, and step 4.

Section

8

SPECIFICATIONS

ENGINEERING SPECIFICATIONS	
Panel Size	18.1”
Type	TFT Bright Active matrix AR / AG Protective Faceplate
Resolution Capabilities	VGA to SXGA
Pixel Pitch	0.2805mm
Active Display Area	14.315” x 11.308/” 359.04mm x 287.23mm
Viewing Angle (Left/Right)	80/80º
Viewing Angle (Up/Down)	80/80º
Contrast Ratio	350:1
Brightness	300 Nits
Response Time	T_R = 15ms typical T_F = 15ms typical
Back Lights	Cold Cathode 50,000 Hrs. Half Life
Video Connector	HD15(F) (This connector for VT181CH4 usage) DVI-I 29Pin connector (Digital/Analog) Composite Video (CVSC) S-Video (S-VHS)
Colors Supported	16.7M
Video Input	RGB Analog (0.7V p-p / 75ohm) , Digital CVBS (1.0V p-p) S-VHS, luma/chroma (.7V p-p / 75ohm)
Sync	Separate H&V, Combined, SOG (Sync On Green), Digital
Input Voltage	AC 100-240V 50/60Hz 1.0A
Power consumption	Normal: 55Watts DPMS: < 3Watts
Operating Temperature	0 to 50ºC
Storage Temperature	-20 to 60ºC
Operating Humidity	0 to 95%NC
Storage Humidity	0 to 95%NC
Operating Altitude	Up to 10,000 ft
Storage Altitude	Up to 40,000 ft

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